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1944/45

REPORT OF THE CHIEF OF THE BUREAU OF AGRICULTURAL ECONOMICS, FISCAL YEAR 1945

UNITED STATES DEPARTMENT OF AGRICULTURE,
BUREAU OF AGRICULTURAL ECONOMICS,
Washington, D. C., September 1, 1945.

HON. CLINTON P. ANDERSON,
Secretary of Agriculture.

DEAR MR. SECRETARY: I present herewith the report of the Bureau of Agricultural Economics for the fiscal year ended June 30, 1945.

Sincerely yours,

HOWARD R. TOLLEY, *Chief.*

FIELD OF WORK

Work of the Bureau of Agricultural Economics during 1944–45 centered on problems of the agricultural economy in the last stages of the global war and the first stages of the return to peace. Major activities, in peace or war, include the collection of primary data and statistics, economic analysis and research, service work, program development, and the dissemination of information.

The Bureau of Agricultural Economics is the chief agency within the Department of Agriculture for collecting original economic data relating to agriculture. These data cover the fields of agricultural production, stocks and prices, farm population and farm labor, agricultural finance, land economics, farm organization and management, marketing and transportation, conditions of farm life and attitudes of farm people. Analysis and research are used to obtain as much information as possible from the statistics collected. Some of the most used statistics of the Bureau are obtained by continuous analysis of the original data. Some of these are based on analysis of data originally collected by other agencies or departments. Economic analysis provides the basis for the general forecasts of demand and prices for farm products prepared regularly by the Bureau. As a part of its service functions, the Bureau is responsible for the coordination of statistics and economic research throughout the Department; and specialists in the several fields of agricultural economics continually are called upon as consultants, or for special analyses, by members of the legislative and executive branches of the Government charged with the development of agricultural programs. In its annual appropriation acts, the Bureau is directed not only to acquire but also to diffuse useful information among the people of the United States. This is done through economic reports, through discussion groups, and by making data available to other agencies that have more frequent contact with individual farmers.

The Bureau cooperates with the State colleges and State departments of agriculture in its research and statistical work and it maintains field offices to keep in closer touch with farmers, local organizations, and State colleges.

Facts about farming and farm people, collected directly from farmers and from those who deal with farmers, are made available to the public through regularly scheduled weekly, monthly, quarterly, and annual reports. It is our policy to publish all such information just as soon as the members of our technical staff are satisfied with its completeness and accuracy. The following review of wartime changes in the production, distribution, and consumption of farm products, as well as in the farm plant and population of this country, is based entirely on either primary or secondary statistical series reported by the Bureau. It illustrates the variety of statistics published, although it covers only a part of them.

WARTIME CHANGES IN THE AGRICULTURAL ECONOMY

Statistics computed by the Bureau of Agricultural Economics indicate that from 1939 to 1944 farmers increased the production of commodities for sale or use in their homes by 28 percent. They did this with 7 percent fewer farm workers; and a large share of the workers available were women, children, old folks, inexperienced help, and imported farm hands. The planted acreage increased 7 percent and the harvested acreage, 9 percent.

Prices received by farmers for their products were doubled, although they started from a relatively low level; and prices paid by farmers, starting from a relatively higher point, went up 45 percent. Net farm income tripled, and farm-wage rates were 2½ times as high at the end of the 5 years as at the beginning. Taxes per acre on farm land shrank 3 percent and interest payable per acre went down 17 percent, although total taxes on real and personal property of farmers increased about 3 percent.

By 1944, the average civilian was eating 6 percent more than he had eaten in 1939, and the farmer was getting 53 cents out of each dollar spent by consumers for a given quantity of food, compared with 39 cents in 1939.

In spite of heavy slaughter in 1944 the number of meat, dairy, and work animals was 9 percent greater at the end of 1944 than at the end of 1939. During these 5 years the average price of farm land climbed 50 percent. Currency, bank deposits, and war bonds owned by farmers soared from 4½ to 15½ billion dollars; and as a result of all these trends, the total assets of farmers rose from 54 billion dollars to nearly 91 billion. One-fifth of the farm mortgage debt was wiped out.

Farm population dwindled 17 percent (more than 5 million) in this half-decade (fig. 1). Although farm births exceeded deaths

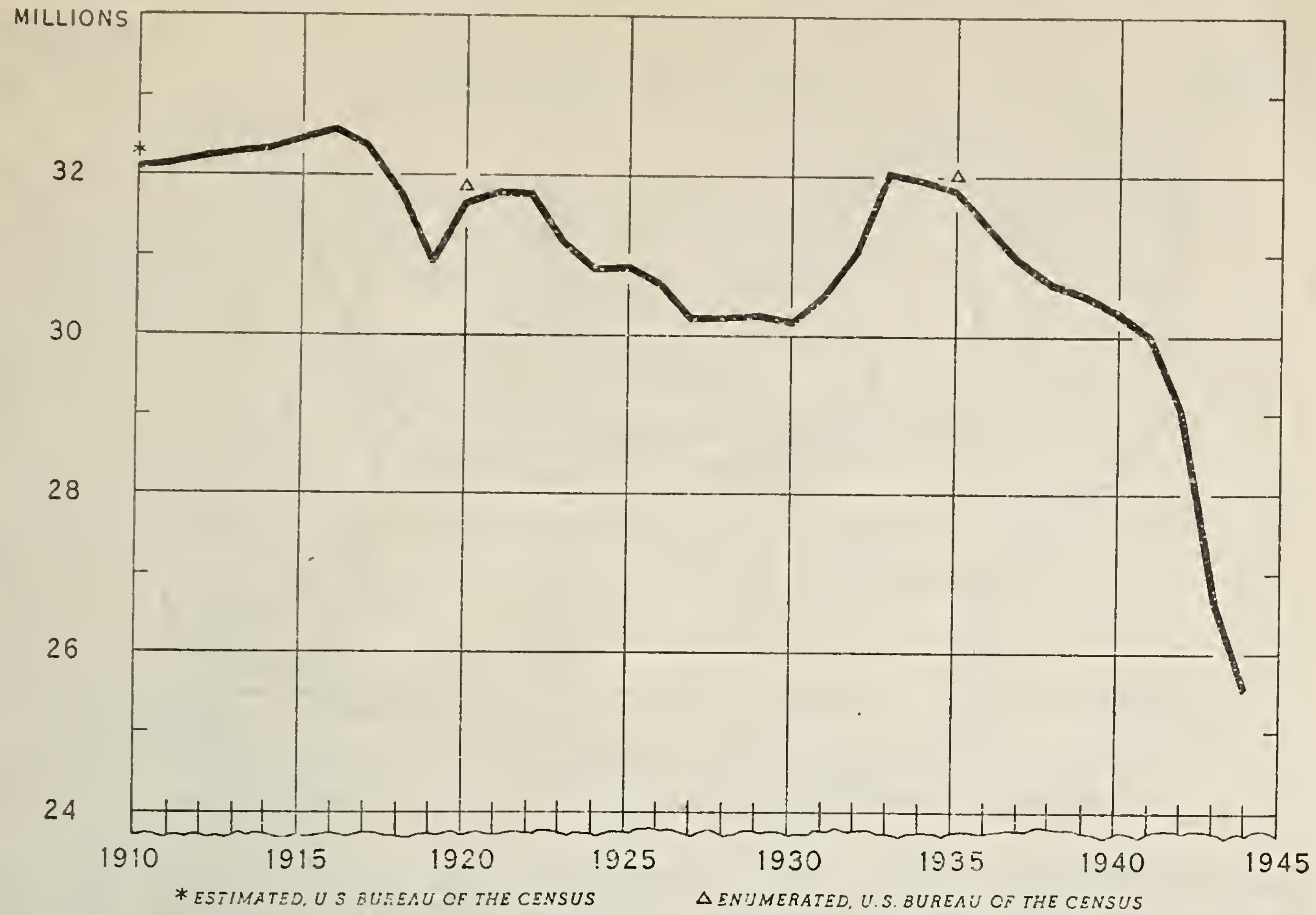


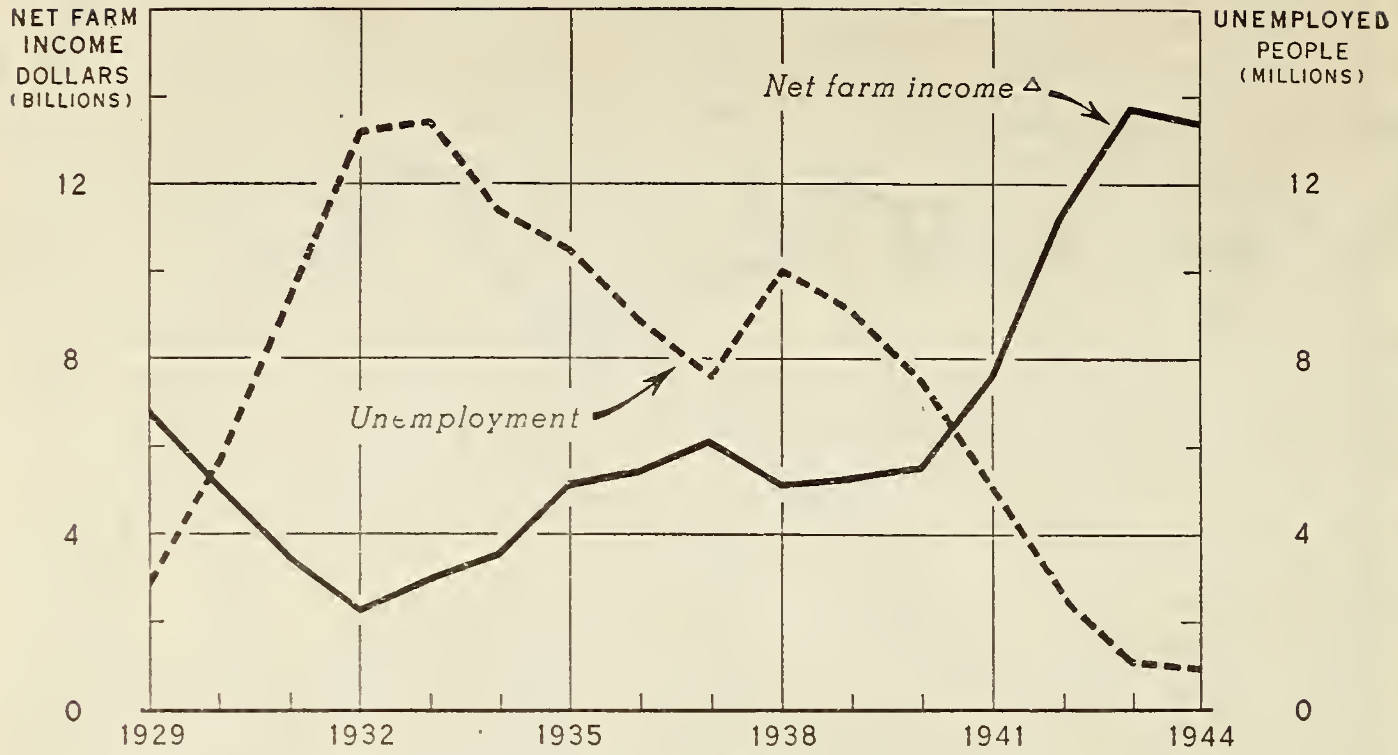
FIGURE 1.—Number of persons on farms, United States, January 1, 1910, to January 1, 1944.

by close to 2 million, nearly 2 million farm people went into the armed forces and another 9 million either moved off farms or quit farming, while 4 million moved to farms. Although there were fewer full-time farms in 1944 than in 1939, there was an increase in the total acreage in crops. This was due in part to the combining of farms and in part to the cropping of acreage formerly idle or in permanent pasture.

WHAT PEACE CAN MEAN TO FARMERS

Analytical work of the Bureau during the past year has been devoted especially to a study of the changes in the agricultural economy brought about by the war and the further changes that may be expected with the return to peace. For example, "What Peace Can Mean to American Farmers" is the subject of a series of reports prepared by the Bureau during the year. The first of these pointed out that "with full employment the postwar adjustments required in agriculture will be manageable but that the difficulties will multiply as the number of unemployed is increased."

With no more than 2 million workers frictionally unemployed (changing jobs, for example) and with prices generally at about the 1943 level, national income 5 years from now might be about 150 billion dollars (table 1) ; and with a moderate degree of international collaboration, there should be an export market for 1.2 billion dollars' worth of farm products. Under these circumstances, farm-product prices on the average should stand at about parity without Government intervention; and the net income of farm operators probably would be between 75 and 85 percent of



B. A. E. ESTIMATES △ NET INCOME OF PERSONS ON FARMS, FROM FARMING, INCLUDING GOVERNMENT PAYMENTS

FIGURE 2.—Net farm income and unemployment, 1929–44.

the 1944 income. The lower the unemployment, the higher the net farm income would be (fig. 2) ; and the higher the employment, the higher the parity ratio (table 1).

"Government can aid private enterprise to maintain full employment in many ways," the second of these reports points out. One way is to revise the tax system by removing any unnecessary impediments to consumption and investment. Another is to encourage competition for the purpose of expanding private production and trade. And a third important way is to assure adequate credit at low interest rates. Moreover, extended coverage under the social security system would help to maintain private expenditures for consumption during periods of unemployment.

The third report cites experience of the United States and other countries during the trade-hampered interwar period to show that:

> With a high level of world trade foreign buyers will take United States cotton, wheat, pork products, and fruit in large quantities, but if the total volume of trade declines considerably these foreign buyers will use their limited dollars to purchase heavy machinery and equipment before they turn to food and fiber products. Thus [it concludes] if United States farmers, especially those who are dependent on the export trade, want to produce to capacity—want to produce all the food and fiber they can—they should support those commercial policies which will expand both world trade and the United States' share of it. And to the extent that increased foreign trade promotes employment within the United States, producers of all farm commodities would gain through the increased purchasing power of consumers.

A fourth report summarizing the relation of agricultural policies to maintenance of full employment is now being prepared for issuance soon.

TABLE 1.—*Employment, prices, and income, United States, averages 1935–39, 1943, and estimates for 1950 under assumed conditions* [1]

Item	Unit or base	Average 1935–39	1943	1950 [2]		
				Full employment	Intermediate employment	Serious depression
Total labor force	Million	53. 8	62. 6	60. 0	60. 0	60. 0
Armed forces	do	. 3	9. 1	2. 0	2. 0	2. 0
Total unemployment	do	10. 2	1. 1	2. 0	7. 0	17. 0
Total civilian employment	do	43. 3	52. 4	56. 0	51. 0	41. 0
Total agricultural employment	do	9. 3	8. 3	8. 0	8. 5	9. 0
Total nonagricultural employment	do	34. 0	44. 1	48. 0	42. 5	32. 0
Gross national product	Billion dollars	81. 9	187. 8	188. 0	130. 0	76. 5
National income	do	[3] 66. 3	149. 9	[3] 150. 0	105. 0	57. 5
Wholesale prices, all commodities, index	1926	81. 0	103. 0	103. 0	87. 0	66. 0
Cash receipts from farm marketings	Billion dollars	8. 0	19. 3	17. 0	12. 5	6. 5
Net income of farm operators	do	[4] 4. 8	[4] 12. 6	9. 3	6. 5	3. 0
Prices received by farmers, index	August 1909–July 1914	107. 0	192. 0	165. 0	125. 0	75. 0
Prices paid, interest and taxes, index	do	128. 0	162. 0	165. 0	140. 0	120. 0
Parity ratio (prices received versus prices paid)	do	84. 0	119. 0	100. 0	89. 0	62. 0
Food consumption, per capita, index	1935–39	100. 0	106. 0	118. 0	110. 0	100. 0
Agricultural production, index	do	100. 0	128. 0	[5] 135. 0	125. 0	[5] 115. 0

[1] Reprinted from table 9, p. 25, Miscellaneous Publication No. 562, with revisions, as indicated by footnotes 3 and 4.

[2] The number of employed or unemployed is not the only factor that distinguishes any one set of conditions from the other two assumed for 1950. The general price level and productivity per worker change also. The "Full employment" estimates assume a minimum frictional unemployment of 2 million persons, continuation of trends in productivity per worker, and a general price level equivalent to that of 1943, with prices received by farmers adjusted to their usual relation with the general price level during 1921–41. The "Intermediate" situation assumes per capita income and prices generally at about the level of 1941. "Serious depression" assumes an income level somewhat above 1932, but below 1935–39 and prices generally about equal to the average of 1932 and 1933, but since both the labor force and productivity per worker are increasing, unemployment under this situation would be even greater than in 1932 and 1933. Population in 1950 is estimated at 144,000,000. All three estimates assume 2 million workers in the armed forces.

[3] Estimate of the Bureau of Agricultural Economics.

[4] Including Government payments and changes in inventory.

[5] Production that consumers would buy and farm families would use at the prices assumed.

AGRICULTURAL RECONVERSION

What adjustments in farming will be profitable after the war if the Nation has full employment? With the help of technical workers in each of the State land-grant colleges and State representatives of Federal farm agencies, the Bureau developed preliminary answers to this question within the year.

If farmers could count on receiving prices that average about parity it would pay them to make adjustments that would step up production above the 1944 output within 5 years or so—such is the tentative conclusion if there is practically full employment in the United States and if the weather is no worse than the long-time average. In such circumstances it appears that farmers might profitably produce one-eighth more tobacco, one-fifth more cotton, one-half more sugar, and one-fifth more dairy products than they produced in 1944; and they might also increase production of truck crops, vegetables, fruits and nuts, and hogs and sheep. Farmers seeking to earn as much as they could in a generally prosperous economy would increase their production of feed crops and pasture more rapidly than their output of livestock, as a security against drought or other emergency and in the interest of maintaining and improving soil resources. They would cut down on oil crops—peanuts, soybeans, and flaxseed—but, even so, the output of such crops would be 2½ times the prewar average.

Better breeding and feeding and livestock sanitation practices and better care of the land would permit farmers to produce more and earn more after the war than they did before the war. Most striking, under prosperity conditions it would pay them, as a whole, to use almost four times as much fertilizer as before the war and twice as much as in 1944.

The adjustments that would be profitable with full employment—and none of this is a forecast of what actually will happen—would result in fewer but larger commercial family farms, more part-time farms, and fewer self-sufficing (or subsistence) farms. Along with fewer and larger farms, operated with more farm machinery, there would be a more rapid decline in numbers of workstock. And with improved technology, about the present number of farm workers could produce even more than the peak production during the war without the long hours and fast pace that were necessary in wartime (fig. 3).

Sixty percent of the increases in production that would result from these adjustments would be in the South, 30 percent in the North Central States, and the remainder in the Northeastern and Pacific States.

Trouble spots would appear along some lines because it would not pay farmers to produce more than could be marketed at satisfactory prices. Cotton and wheat would be the chief trouble spots. They have long been the biggest headaches to everyone who wants farmers to get adequate incomes without excessive economic controls or perpetual drains on the Federal treasury. The basic problem is that before the world-wide depression, United States producers of cotton and wheat sold a large share of their crops for export. During the depression they sought to avoid bankruptcy through controlled production and marketing, but at the same time

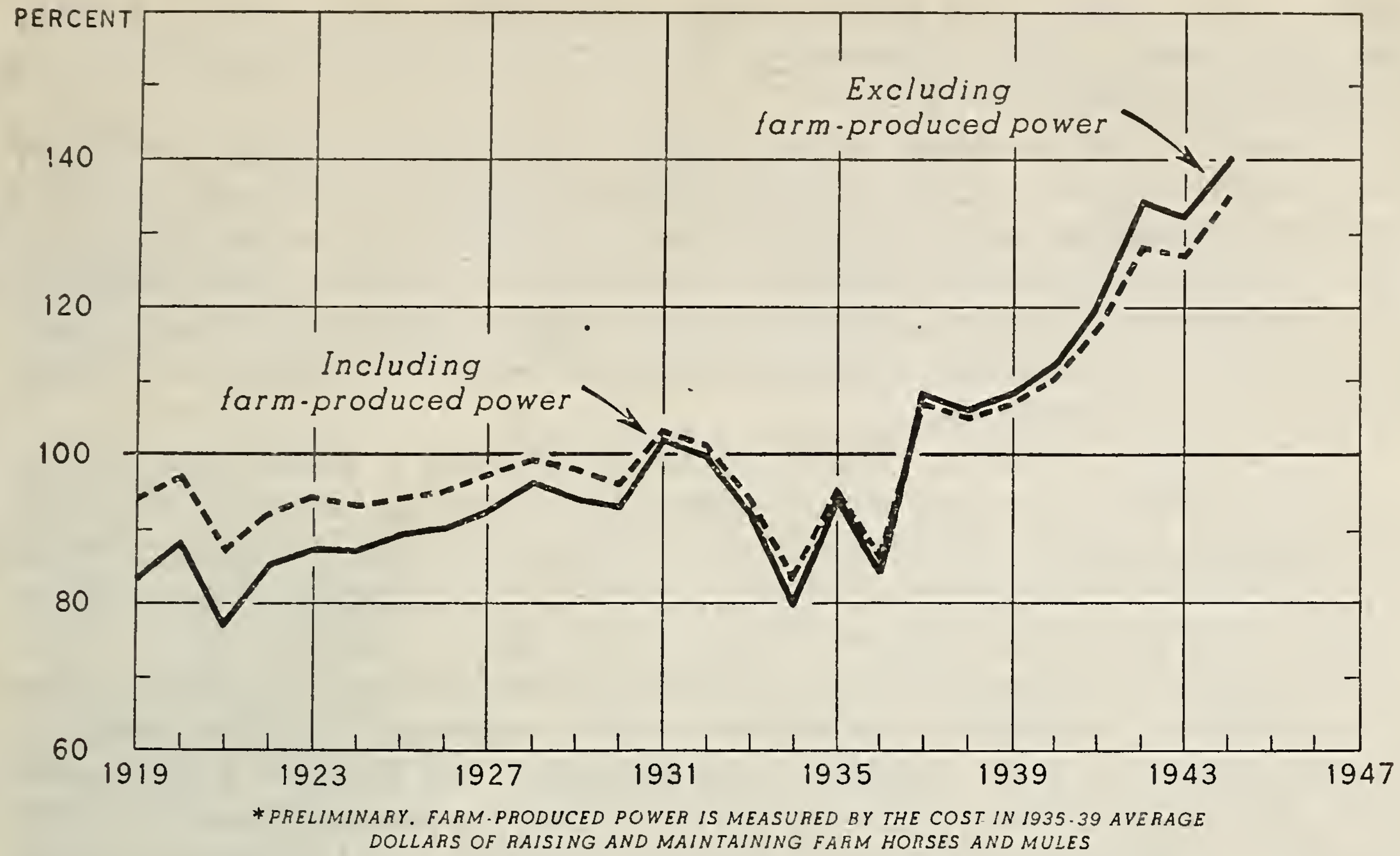


FIGURE 3.—Farm production per worker, including and excluding farm-produced power, United States, 1919–44.

producers in other countries were demonstrating their ability and willingness to sell cotton and wheat in foreign markets at less than the protected United States price.

Not only did foreign producers come into the world market intending to stay, but United States producers thwarted much of their own effort to curtail acreage and so limit production, by adopting measures that increased yields per acre. Moreover, synthetics are competing more each year for the domestic cotton market.

The Bureau made special studies of the alternatives proposed to solve the dilemmas of the Cotton South and of the Wheat Belt.

Roads that may lead toward a solution of the cotton problem include continuation of the progress made in recent years toward agricultural diversification and wider industrial expansion in the South, production at lower cost, expansion of foreign markets for American goods including cotton, maintenance of a high level of consumption in the United States through full employment, special measures to stimulate consumption, and research to find new uses for cotton.

Further mechanization of cotton farms undoubtedly would decrease production costs, but also probably would throw many farm workers out of employment. However, the South has the physical resources for a much greater industrial expansion which could absorb farm workers who might be displaced. Farm operators and farm laborers alike might need help to make the transition without severe hardship for many of them. All the problems and alternative solutions are being explored in detail in current research of the Bureau of Agricultural Economics.

Alternative policies for wheat after the war also have been examined by the Bureau in its economic investigations. The principal alternatives analyzed include: (1) The bringing about of parity prices with the aid of loans, production controls, and marketing quotas; (2) a two-price system; or (3) free market prices with no controls.

There are, of course, advantages and disadvantages to all of these approaches. Among the disadvantages of the first of these policies would be restrictions on the operations of wheat growers, the substantial administrative cost to the Federal Government, failure to make full use of resources in some areas, higher unit costs of production, and less employment and a smaller volume of business in food industries.

A two-price system would be built around a parity price for wheat for domestic food and a free market price for wheat for feed and export. Such a plan could be administered in several different ways, but all of them would involve certain restrictions on production and distribution and would be relatively costly.

Free market prices with no controls would mean less red tape for the producer, adequate supplies for the consumer at competitive prices, and a larger volume of production. However, the transition from supported domestic prices to world market prices might seriously disadvantage many wheat producers. A well-considered conversion program could help cushion this shock.

Elements of such a program might well include: Price adjustment payments to farmers graduated downward over a limited period of years to cushion the shift from supported prices to competitive prices; conversion payments integrated with supervised operational and facility loans to enable operators of small farms and ranches to enlarge their units so as to bring about increased efficiency and more adequate incomes; conservation payments and expansion of programs for supplying technical advice, mechanical assistance, and materials needed to keep soil, water, range, and forest resources on a sustained yield basis; crop insurance and similar measures to protect farmers against the hazards of nature as well as against loss of equity during prolonged periods of drought or depression; direct assistance to farm people displaced in the conversion process, or who desired to enter other lines of work, by establishing training schools to fit them for other occupations, by helping them locate other jobs, or by financing their travel to places of new employment.

The problems of the wheat producer are only a part of the economic problems that recurrently plague farmers in the Great Plains. There periods of ample rainfall alternate with successive years of drought, and farming methods, indeed all rural institutions, change with the ebb and flow of the weather. The central problem is to stabilize and maintain farm incomes at adequate levels throughout these recurrent cycles. At present, the Bureau is cooperating with other agencies in analyzing the economic problems of Great Plains agriculture, the effects of programs already tried, and alternative solutions proposed for the future.

A careful analysis of national and regional trends in hay production also was made during the year. This indicated that there has been a decided shift from the grasses to the legumes with a consequent increase since 1920 of 74 percent in the amount of digestible protein available to roughage-consuming livestock, excluding horses and mules. This marked improvement in the nutritive quality of our forage supply, together with increases in per acre yields, made it possible to maintain our dairy herds on fewer acres during the war—thus releasing more land for producing crops needed for direct human consumption.

A Nation-wide study is in progress in cooperation with State agricultural colleges on methods of making, harvesting, and curing hay. This seems especially pertinent in view of the progress being made in improving the kind and the quality of our forage supply.

LAND SETTLEMENT

With the war over, the reestablishment of many veterans and war workers in agriculture, industry, and other occupations will be necessary. After World War I, many veterans took up farming and many failed. Their experience indicates the need of taking stock of the present farming outlook, farm opportunities, and the farm problems that lie ahead, and of formulating public policies that could help in the readjustment period. With this problem in view, the Bureau prepared a report which appraises farming opportunities that will be available immediately after the war, particularly those that relate to the interests of returning veterans. This report calls attention to some of the economic, social, and physical problems to be solved in filling vacancies created by retirement, death, or change in occupation of farmers on existing farms.

The principal conclusion of the report is that opportunities on farms are limited largely to those that will be available through the replacement of elderly farmers. There will not be enough paying jobs open on farms to justify a large-scale back-to-the-farm movement after the war. Agriculture, however, will offer some opportunities for those qualified by experience, training, and genuine interest. The investigation by the Bureau indicates that through retirement, death, and change to other work by older farmers in the first 5 years after the war approximately 800,000 farms will become available for sale or rent, not more than half of which, however, will provide a full-time farmer with an adequate living. It is estimated that if all the military lands bought from private owners since 1940 that are suitable for farming were declared surplus and redeveloped into family-sized economic units, about 10,000 farms and ranches could be made available. Another potential source of new farms could be made available also by irrigation and development of land in public and private ownership by means of projects now under construction or authorized for construction. If construction of necessary facilities is completed and funds are provided for farm development, from 40,000 to 50,000 new farms could be created in the first 5 years after the war, and probably from one-half to three-fourths of a million jobs as hired farm workers will be available to returning veterans and others. Thus, considering all possible sources of farm opportunities, there may be as many as a million to a million and a half farmer and other farm-worker jobs available in the first 5 years after the war.

SERVICE WORK

Specialists in this Bureau have spent much of their time during the year performing special services for other agencies of the Government and for the public. For example, they have taken part in the work of various committees such as those that set the recommended acreage or production goals for individual commodities and those that estimated the total supplies of individual commodities available for allocation to war and civilian uses. Bureau representatives have supplied information used in establishing price supports and other incentives to obtain the needed volume of production of individual farm products. They have been called upon frequently for information needed for the establishment or adjustment of price ceilings or for rationing and other measures intended to improve the distribution of agricultural supplies. BAE population specialists have compiled quarterly estimates of the total number of persons drawing their food from civilian supplies, and have furnished these estimates for use of the Department of Agriculture, Office of Price Administration, and other agencies concerned with food allocation.

Special tabulations have been made of data relating to agricultural commodities that were needed by war industries. Officers responsible for supplying food and fibers to the armed forces requested considerable information about prices and available supplies. Agencies concerned with manpower problems requested detailed information about the number of workers employed on farms and the wages they received. Both public and private agencies interested in transportation wanted special estimates of production, reports on storage capacity, and other data that would give them a picture of the supplies of farm products likely to require transportation at any given time in any given part of the country. Similar data were supplied to agencies concerned with processing and marketing farm products. To illustrate, the Bureau prepared for administrative use, special reports on wheat production, wheat stocks, and grain-storage capacity in local areas that were needed in devising plans to move, store, and market the record wheat crops with a minimum waste of grain and of limited transportation and market facilities. Special reports on crop damage to fruits and vegetables resulting from storms or freezes were prepared during the year.

Through its own reports and through answers to inquiries from press and radio, the Bureau of Agricultural Economics helped to keep the public informed about food production and available food supplies, as well as about other agricultural economic matters of general interest. Specialists of the Bureau were called upon to make tabulations of data to help sell war bonds in rural areas and to analyze the effectiveness of the drives.

Bureau workers helped to train foreign service representatives of the United States Government in the methods used to obtain crop reports and other agricultural statistics in this country, so that they will be better able to report on agricultural production and marketing data about foreign countries. Similarly, Bureau staff members have given special training to representatives of the other American nations, who have come to this country to study our statistical methods, and have served on technical committees of the Interim Commission on Food and Agriculture. Foreign embassies have requested a variety of data on agriculture in the United States. Special materials were prepared for the Third Inter-American Conference on Agriculture, at Venezuela, and several representatives of the Bureau were members of the United States delegation or served on the delegation's staff. In all these ways, the Bureau of Agricultural Economics is helping to stimulate a general world-wide exchange of information on production, distribution, and consumption of agricultural commodities. Such an exchange, incidentally, is one of the instruments through which the United Nations Food and Agriculture Organization hopes to effect an improvement in production and consumption throughout the world.

This Bureau has helped to develop the plans for the work of this new international agency and several of the Bureau's staff members serve as chairmen or secretaries of international committees of experts developing proposed programs for the consideration of this agency.

Many members of the armed forces, both in this country and overseas, have expressed an interest in farming after the war. Some of them come from farms, and some have grown up in large cities. Some have had a life-long ambition to own a farm; and a few, apparently, merely hope to find a place where they can forget the unpleasantness of war and be their own bosses. The Bureau of Agricultural Economics has answered many inquiries from veterans, and it has cooperated with the Armed Forces Institute in preparing textbooks and other statements to help give some veterans a realistic basis on which to decide whether or not they want to farm; to help others choose the type of farming they want to go into; and to instruct still others who have already decided to enter farming in the practical operations of this vocation.

Three timely Farmers Bulletins prepared by the Bureau of Agricultural Economics during the year have proved especially popular. They are No. 1961, *Getting Started in Farming;* No. 1962, *Useful Records for Family Farms;* and No. 1965, *Planning the Farm for Profit and Stability.*

The Bureau has continued its participation, both in Washington and in the regional offices, in the work of the Interbureau Committee on Postwar Programs. Bureau representatives have served as chairmen of the general committee and of many of the subcommittees, and as leaders of the committee program in several regions. As a part of this activity, it has also continued to work with other public and private organizations in exploring opportunities for the establishment of more industries in rural areas in order to provide work for part-time farmers, for seasonal farm workers, or for workers displaced by technological progress in farming.

Representatives of the Bureau of Agricultural Economics spent considerable time in assisting the Census Bureau of the Department of Commerce in connection with the 1945 Census of Agriculture. Reestablishment of the Federal crop insurance program brought to the Bureau requests for statistical material concerning fluctuations in acreage, yields, production, and losses of various crops.

Background summaries of factual material on a number of topics of interest to farm people were prepared in the Bureau (in cooperation with other agencies in many instances) for the use of discussion groups in rural areas. The subjects on which these summaries were prepared included: The world peace organization and what it means to farm people, and buying and selling farm products abroad.

Among the most important of all the services rendered by the Bureau of Agricultural Economics during the year were those performed at the request of the legislative branch of the Government. Individual Senators and Representatives asked for a considerable amount of data—some of it bearing on the problems of their individual constituencies and some of it relating to pending legislation. Many of the requests from Congress for special reports, estimates, or tabulations came from Congressional committees concerned with problems incident to the conduct of the war or to preparation for reconversion to a peacetime economy.

STATE AND REGIONAL WORK

State and regional offices carry on much of the fact-collecting and fact-analyzing work of the Bureau of Agricultural Economics. Personnel from all the regional offices of the Bureau have cooperated with the land-grant colleges of the 48 States in determining the wartime production capacity of American agriculture and in suggesting, annually, desirable patterns of production for the year ahead. This information has been used in developing and in distributing each year's agricultural goals. Most of the research on economic problems related to irrigation is conducted by the regional offices at Berkeley, Calif., Portland, Oreg., and Lincoln, Nebr. Work on wartime production and postwar readjustments related to cotton and peanuts was emphasized in the regional offices at Atlanta, Ga., and Little Rock, Ark. Problems of the part-time or subsistence farmer were given special attention in the Appalachian regional office, with headquarters at Washington, D. C. Pasture improvement and dairy production were stressed in the research program of the northeastern regional office at Upper Darby, Pa. Economic questions raised by the wartime expansion of the soybean acreage were studied by the regional office at Milwaukee, Wis. These examples are merely illustrative of the regional work of this Bureau. Problems associated with land values and with the war-created shifts in rural population and rural institutions are among the topics on which the regional offices have done considerable work. The regional field staffs have conducted studies on current and anticipated rural migration problems in 71 counties representative of the major type-of-farming regions of the country. These studies are being summarized into regional and national reports. Studies of the economic and social problems of veterans returning to agriculture and changes in farm-family expenditure patterns are being carried on in this 71-county sample.

Research offices at Ames, Iowa, and Raleigh, N. C., maintained cooperatively by the Bureau of Agricultural Economics and the land-grant colleges in these two States, are concentrating on the improvement of statistical techniques in order to help all agencies responsible for the collection of statistics to get better data more quickly at lower cost. The Bureau's field office at Chicago collects statistics on the production of cheese, butter, and other dairy manufactures for the joint use of the Bureau and of war agencies interested in the production, distribution, and pricing of dairy products. Similarly, a field office at Denver collects and summarizes data on livestock, range, and pastures in the Western States. The offices of State agricultural statisticians collect, analyze, and interpret local information on crop and livestock production, utilization, prices, and related topics which provide the foundation for current State estimates on these subjects. These estimates in turn form the basis of the official national crop and livestock reports of the Department of Agriculture. In addition to carrying on their long-established program of crop reports, the State offices of the Bureau have been called upon for many special activities linked with the direction and operation of wartime or other emergency programs concerned with an adequate output of agricultural products. The offices of the State agricultural statisticians have been pressed to furnish an increasing volume of basic estimates for such purposes, chiefly in the form of more detailed indications by counties or individual producing areas within a State.

Some of the major activities in which the State offices have collaborated in this connection have included: The technical study of potential production adjustments in State and National agriculture; the establishment of State and county agricultural production goals each year; special surveys of crop conditions or changes in crop prospects required in the consideration of price and production controls or adjustments to current situations; and consultation and preparation, upon request, of special estimates and reports bearing upon subjects pertinent to the operations of State War Boards, State Wage Stabilization Boards, the Agricultural Adjustment Administration, the Federal Crop Insurance Corporation, and other agencies of the Department of Agriculture.

THE MASTER SAMPLE

The Bureau of Agricultural Economics is engaged in continuous research to improve its fact-collecting methods. For example, it has continued work in the development of the Master Sample of agriculture, which is in effect a small-scale replica of all farms in the United States. The work of assembling the basic materials and of selecting the sample areas and sample farms has been largely completed and these have already been made available for use in a number of surveys by the Bureau, as well as surveys by other agencies. The maps, aerial photographs, and other materials which have been assembled as a part of this project are proving very useful to agencies in and out of the Department, for they are now the most complete collection of such materials that is available anywhere in the Federal service.

The Bureau of the Census has continued its cooperation on this work and has used the Master Sample in connection with the 1945 Census of Agriculture, as well as in some of its current surveys.

Because this work has been done, the BAE was able to begin work immediately on the special surveys of wage rates authorized during the year by Congress. Selecting an adequate sample for the special surveys of wage rates would otherwise have been a time-consuming job, and would have delayed the Bureau in getting under way with the main objective of that study. The Bureau has also used these materials in developing samples for a number of other surveys, including its quarterly survey of a small national sample of farms to secure data on current farm incomes and operating expenses, marketings, labor, levels of living, land use, and other data related to agriculture.

The materials are so arranged that it is possible to select many samples of farms or farmers for use in widely different surveys and still preserve a maximum comparability of the data among the different surveys. By employing and training local part-time enumerators in a selected sample of counties, it has been possible to get comparable statistics and to collect the required information at relatively low cost and without undue burden on the cooperating farmers.

One of the important uses of these materials will be to assist other agencies in and outside the Department in selecting efficient samples for their own surveys. It has been possible during the past year to make these materials available to the Agricultural Extension Service and the Bureau of Human Nutrition and Home Economics, as well as to a number of agricultural colleges for use in selecting samples for field surveys.

As further study is made of the results of these several surveys, the usefulness of the materials to other agencies and the efficiency with which the materials can be used will be increased.

SURVEYS OF FARM WAGES AND WAGE RATES

The record of farm wage rates, hourly and weekly cash earnings of hired farm workers, and hired labor input on farms will be more complete for 1945 than for any previous year, as a result of the expansion in the collection of farm wage data by this Bureau since January 1945. The expansion includes three national surveys, each involving enumeration of a sample of 20,000 farms, made at approximately quarterly intervals during 1945. The surveys permit estimates by four major regions of the United States, the Northeast, North Central, South, and West. Also included in the year's program were about 60 local enumerative surveys of wages of harvest labor in selected special crop areas. Expanded mail-questionnaire surveys will be started for the purpose of continuing the collection of the new types of farm wage data and of permitting estimates by States.

The farms in the three national enumerative surveys were selected by the Master sample techniques from a sample of 158 counties. These counties include the 101 counties used by the Bureau of Agricultural Economics as a general purpose sample and 57 additional counties selected to permit estimates by four major regions and to provide heavier coverage in areas where hired labor is important. Special surveys on wages of harvest labor are being made in 15 States, usually during a peak harvest week. In addition, through cooperation of the Office of Labor of the Department of Agriculture, surveys are being made on wages and wage rates of workers housed in selected Labor Supply Centers of the Department in special crop areas.

In both the national and special area surveys, wage data have been collected on an enumerative basis and in more detail than the Bureau has previously obtained. Wage information is secured on an individual worker basis which provides not only averages, but also distribution of hired farm workers by amount of wage rate, and by other classifications. Information is secured on time worked and cash wages earned during the reporting week, and this permits computation of average hourly, daily, and weekly earnings of hired farm workers classified by various items. The March survey showed that hired farm workers received an average cash wage of 35 cents an hour, $3.20 a day, and $15.80 a week.

In the national surveys, information on the duration of employment of the workers on reporting farms permits separate tabulations of wage data for regular and seasonal workers. In every region, seasonal workers had higher hourly cash earnings than regular workers but their weekly earnings were lower, as they averaged only 32 hours of work per week in March compared with 56 hours per week for regular workers. Wage costs per hour of labor varied from an average of 27 cents for regular labor in the South and North Central States to 68 cents for seasonal labor in the West. Additional comparisons are available to indicate wage differentials among farms of different sizes and farms hiring different numbers of workers.

In the May national farm wage survey, special information was obtained for a subsample of hired workers on the value of housing, lodging, meals, and other perquisites furnished free of charge to hired workers in addition to cash wages. This will permit estimates of the average nonmoney wage for different groups of hired workers to be added to money wages in order to insure a more valid appraisal of farm and nonfarm wage differentials. Reports from the new farm wage surveys are being issued by the Bureau of Agricultural Economics in a series of surveys of wages and wage rates in agriculture.

NEW SERIES OR COMPILATIONS

State estimates of cash receipts from marketing farm products have been available for several years. However, in previous years estimates of production expenses and net income of farm operators were published only for the Nation as a whole. In midyear, the Bureau of Agricultural Economics for the first time published estimates of production expenses and net income of farm operators by States for 1943 and 1944, with the announcement that estimates for 1929 and 1939–44 would be issued later in the year. Farm operators' total net income from agriculture and Government payments, in 1944, ranged from 5.7 million dollars in Rhode Island to 862.5 million dollars in California. Operators' income per farm from agriculture alone, ranged from an average of a little over $800 in West Virginia to nearly $6,800 in California.

At the request of organizations and agencies directly concerned with production and distribution of processed feed supplies, the Bureau began collecting monthy data on the production and distribution of meat scraps and tankage from about 450 plants during the past fiscal year. These data, beginning with July 1944, were first published in June 1945. They indicate that production of meat scraps averages about 50,000 tons per month; of tankage, a little more than 18,000 tons per month.

A report on commercial statistics on peanuts, Statistics on Commercial Peanuts, by months and seasons, September 1938–August 1944, published during the year brought together for the first time monthly statistics from 1938 to 1944 on farmers' stocks of peanuts in commercial positions, stocks crushed, and stocks milled. Statistics on fruit production and utilization for the period 1934 to 1944 were combined in one report during the past year. This report, which covers 13 noncitrus fruits, indicates that for the past 11 years about one-tenth of the fruit was canned, about one-fourth was dried, and before 1944 less than 1 percent of it was frozen. In 1944, about 1½ percent of the fruit produced was frozen.

Actual records of livestock slaughter were available only for federally inspected plants until 1944, and other slaughter was estimated annually on the basis of meager information. As a result of the wartime licensing of all kinds of slaughter plants, it was possible to make monthly estimates of total livestock slaughter and meat production. This Bureau is now exploring the possibility of obtaining sufficient data on a voluntary sample basis to continue making monthly estimates of slaughter and meat production. Slaughterers, farm organizations, and producers have all expressed a desire for such data.

State estimates of monthly milk production were completed and published for 6 additional States during the year, bringing the total to 15; and estimates for 3 more States should soon be ready for publication.

Extensive data, by States, on commercial hatchery operations, on the types and breeds of chickens, and on the kind and amounts of feed fed to layers on farms, were obtained in three Nationwide surveys. The hatchery survey, summarized in Statistical Bulletin No. 81, Commercial Hatchery Chick Production, covers about 10,500 establishments and provides a recent basis for monthly and annual estimates of chicks hatched. Data now being collected on the quantity of feed fed monthly to layers on farms will be used in preparing a monthly report showing the cost of a farm poultry ration, the quantity of feed fed per layer and per dozen eggs, and the spread between the cost of feed fed per layer and the value of the eggs produced.

Statisticians are endeavoring to develop reliable annual estimates of the total acres of land in farms and the total number of farms, to supplement the 5-year enumerations made by the Bureau of the Census.

During the year, the Bureau started publication currently of national average prices paid by farmers for 135 of the 180 commodities included in the index of prices paid, interest, and taxes. Averages for 1935–39 and data for each quarter since March 1939 also were published monthly in Agricultural Prices. Measurements of soil moisture penetration and crop frontage on fixed routes, temporarily suspended at the beginning of the war, were resumed. This is an excellent source of data for use in estimating crop acreages and yields. Estimates of the percentage of corn acreage planted with hybrid seed were prepared, by counties, for all corn-producing States, beginning with the first year in which as much as 1 percent of the county corn acreage was planted to hybrids.

These examples merely illustrate some of the progress made during the past year toward extending the completeness and availability of information on agricultural statistics. The continuing program of statistical work calls for the distribution each year of more than 8 million schedules to farmers and others, and the tabulation of more than 2 million schedules.

Among the other developments in the program of statistical reports were: The consolidation of data on farm and nonfarm stocks for all grains into a single quarterly report; the issuance of reports on planting and harvesting dates of commercial truck crops, by seasonal groups; and a survey of rations fed to milk cows. Among other reports made for special current use were those on white-corn production and reports on the stocks of late potatoes on hand the first of each month from January through May 1945.

In cooperation with the Bureau of the Census, quarterly estimates of the farm population of the United States are being developed and issued in a series of cooperative releases. These present for the first time current data on age and sex composition of the farm population and on the number of farm families. In addition, the cooperative releases have made available current information on off-farm work of farm operators and members of their families.

MARKETING RESEARCH

Marketing research of the Bureau during the year has dealt largely with the potentialities of air transport of agricultural commodities, postwar markets for dehydrated foods and frozen foods, and marketing costs and margins for agricultural commodities. This Bureau has collaborated with representatives of industry in obtaining data in the marketing field.

Consumer acceptance of dry milks was the subject of a survey made last spring in Houston, Tex., where increased population and buying power had created a shortage of canned and fluid milk. The survey indicated that consumer acceptance of dry milks had been neither an unqualified success nor an unqualified failure. Dry milks are particularly suitable for persons remote from a fluid supply. The survey showed that they were more popular for cooking and baking than for other uses, and that marketing of dry milks would be relatively more successful if they were sold under well-known brand names and only in stores that have a rapid turn-over of merchandise. It also indicated that the market for dry milks might be expanded if ways could be found to improve the taste and to make it easier for the housewife to reconstitute dry milks.

By 1944, there were 141 vegetable dehydrating plants in operation, with a total capacity of 270 million pounds a year. In 1941 there were only 15 to 20 plants with a total output of about 15 million pounds. The Bureau of Agricultural Economics participated with several other agencies of the Department of Agriculture in a report which estimates the postwar market for dehydrated vegetables at 25 to 30 million pounds.

A special study in marketing air-borne lettuce involved experimental sales in Detroit food stores. The study indicates that lettuce from the Salinas Valley of California could be flown to the Detroit market in the postwar period at a cost approximately 3¾ cents per pound above that of the rail-transported product. Experimental sales indicate that air-borne Iceberg lettuce from California can be marketed in quantity in Detroit at a differential of 5 cents per head over surface-transported lettuce. The study indicated further that other agricultural commodities could be transported to advantage by air.

Preliminary research indicates that air-borne agricultural perishable products transported at least 1,000 to 1,500 miles could compete most advantageously with surface-borne products. The economy of air transportation of perishable farm products is doubtful on hauls of less than 750 miles. This air-transport research indicates that an air-freight line probably would have difficulty in succeeding if it hauled either agricultural products or manufactured products exclusively. Freight movements by air probably will be carried on principally between metropolitan centers, with perishable agricultural products moving from west to east and from south to north, and industrial products being carried on the return haul.

To meet the need for more information on marketing costs and margins, the Bureau has brought together data to show the average distribution of the consumer's dollar paid for textile products, foods, tobacco, and leather goods (fig. 4).

Results of the textile study published in the spring of 1945, show that in 1939, the last "normal" prewar year, growers received only 8 cents for cotton or 11 cents for wool, out of each dollar paid by consumers for the finished textiles. About 3 cents out of each dollar went for preparing and selling the raw fibers. It cost another 19 cents for cotton and 13 cents for wool to make the fiber into cloth; and 30 cents for cotton and 35 cents for wool to make the cloth into finished goods. Wholesaling and retailing claimed 41 cents out of the consumer's dollar for cotton and 38 cents for wool.

A similar analysis revealed that in 1927–44, the farm value of both the grain and other ingredients averaged about 18 percent of the retail price, although the farm value of the actual grain content of the bakery products averaged only 9 percent. The amount and cost of processing required, the perishability of bakery products, and the high cost of distributing them to consumers are responsible for the relatively large spread between the retail price of bakery products and the farm value of the ingredients.

Other studies in the series on marketing margins and costs included those on fluid milk and fresh fruits and vegetables. Also

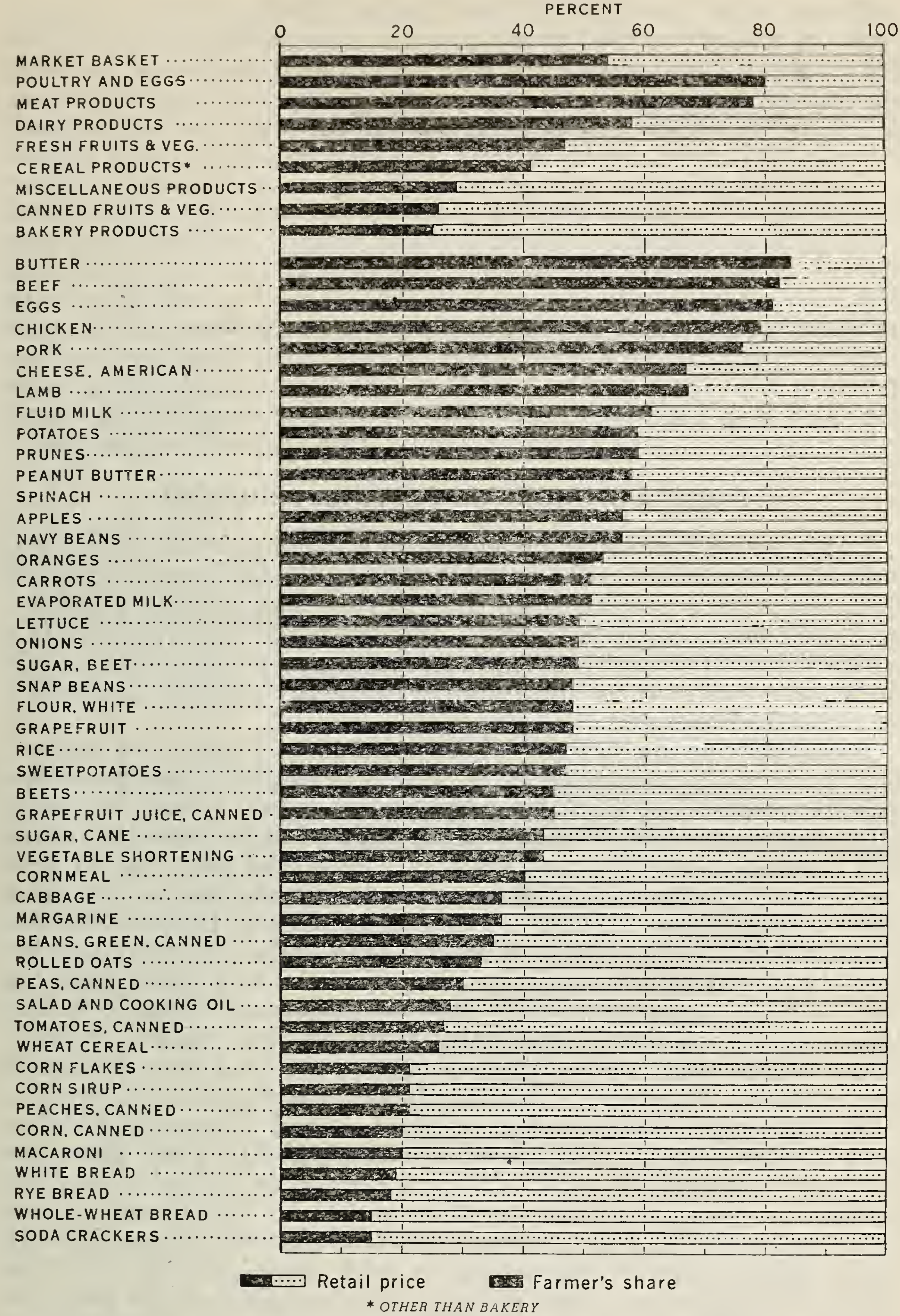


FIGURE 4.—Farmer's share of retail cost of farm food products, July 1945.

typical of the Bureau's expanding services in providing information to persons interested in marketing farm products are the new statistical measures of the price spreads between farmers and consumers devised by the Bureau. Estimates of marketing charges and price spreads previously calculated for 58 foods were replaced with a completely new series calculated for a family "market basket" of food products. The new series shows monthly price spread comparisons for many additional foods and includes allowances for byproducts and waste where they are important. A break-down of the products included in the total "market basket" into six major commodity groups and several subgroups is shown.

Continued attention was given by the Bureau to needs for reorganization of terminal market facilities in the larger cities. Following up its report on the market situation in San Francisco the Bureau assisted the Chamber of Commerce in drawing up detailed plans for a new produce market in that city. In accordance with its policy of cooperating with State research agencies, the Bureau made a study of New England milk-marketing problems in conjunction with the New England Research Council and worked with the Corn Belt Livestock Marketing Research Committee in carrying on research in the marketing of livestock in the Corn Belt area.

FARMER OPINIONS ON POSTWAR PROBLEMS

In the belief that sound development and administration of agricultural programs must be based largely on the thinking of farmers themselves, this Bureau from time to time makes sample surveys of the attitudes of farm people. Illustrative of these surveys is a summarization of farmers' views on major postwar problems, made during the past year for the guidance of the Interbureau Committee on Postwar Programs.

A majority of the farmers whose opinions were obtained thought that at least three-fourths of the farm people who had gone into military service or nonfarm employment would return to farms after the war. They thought that most of those who do return will be able to make some kind of a living, and that the Government should help veterans who want to get started on the land. They believed that if land prices go any higher, farms could not be paid for out of earnings from the land. The majority opinion was that farm incomes will remain good for 2 or 3 years after the war, but that depression will come eventually and that if it does the Government should guarantee farm-product prices. In general, though, they were optimistic about the long-term future of agriculture. Farmers in the Southeast favored planned production, farmers in the Corn Belt opposed it, and farmers in California's Central Valley were about evenly divided. Their plans for postwar expenditures most often included a new tractor or farm machinery, and then an automobile or truck. Next came household equipment and furnishings, electric current and equipment, farm land, dwelling improvements, and farm-building improvements. There was a wide divergence of opinion on the need for postwar public works to provide jobs, but a majority of the farmers interviewed want better rural health facilities, further consolidation of rural schools, hot school lunches, expansion of school library facilities, and continuation of school shops for repair of farm machinery.

PRICE-ANALYSIS RESEARCH

Typical of the price-analysis research of the Bureau during the past year is one study, Farmers' Response to Price in the Production of Potatoes, 1922–41, and another of estimated per capita demand for meat in the United States at varying per capita income levels and varying meat prices.

The study of potatoes concluded that around 76 percent of the year-to-year changes in harvested acreage could be explained by potato prices either 1 or 2 years earlier. In general, a 10-percent change in price was associated with more than a 2-percent change in acreage, in the same direction. However, once acreages have been reduced or increased substantially because of price changes in the same direction, further changes in price are less likely to be followed by further changes in acreage. Factors other than price, then, tend to determine the acreage that will be planted.

The study of meat indicates that the quantity demanded is directly related to consumer incomes and inversely related to meat prices, when both incomes and prices are adjusted for changes in the cost of living. At any particular level of income, a 1-percent rise in the adjusted price is accompanied by a decline of roughly 0.9 pound in the annual per capita consumption.

These examples illustrate one phase of the economic investigations, useful in the production and marketing of farm products, that are carried on continuously by this Bureau.

LONG-TERM PROJECTS

The study of income from typical family-operated farms has continued during the year. Farms studied include four livestock farms in Montana, two sheep farms, two cattle farms, a wheat-pea farm in the Pacific Northwest, and three cotton-combination farms in the Southeast. Income From Dry Edible Beans, 1910–43, was added to the list of completed sections as No. 18 of part I in the series, Income Parity for Agriculture. The report presents data on sales, prices, home consumption, cash income, and gross income from dry edible beans in the United States, 1910–43.

Research was continued in the related fields of land values; land utilization, development, and settlement; land tenure; water utilization; and land policies. A continued rise in prices and a decline in volume of sales were leading developments in the farm real estate market during the year. The price increase for the country as a whole was 11 percent, bringing values to a level 57 percent above the 1935–39 average and less than one-fourth below the 1920 inflation peak. The United States index (1912–14=100) was 126 on March 1, and 130 on July 1. Since March 1941, values have risen 53 percent, or an average of 1 percent per month. The volume of voluntary sales decreased 8 percent during the year ended March 1945 from the record peak of the previous year, when the volume was almost 15 percent above the "boom" year, 1919. Despite this decrease, the volume of sales last year continued at a level that was higher than for any other year of record except

1943–44. The latest issue of the series of Farm Real Estate Situation reports was published in January 1945 as United States Department of Agriculture Circular No. 721, The Farm Real Estate Situation, 1943–44.

A summary of the findings of continued research on farm rental practices is contained in Farmers' Bulletin 1969, Better Farm Leases. A preliminary report on farm tenure problems and policies in this country has been prepared as part of the Bureau's work with the Interbureau Committee on Postwar Programs.

Outstanding Federal and State legislation affecting land use and farm tenure enacted during 1943 and 1944 was summarized in a report published as the seventh in this series.

Economists assisted in collecting and analyzing facts needed in connection with the many proposals for new irrigation developments, some of which have already been authorized by Congress.

Input-output studies, which in earlier years threw new light on the physical and economic relationships between quantities of feed consumed and quantities of milk and butterfat produced, were continued during the past year with a study of hogs. Technical Bulletin No. 894, Feed Consumption and Marketing Weight of Hogs, indicates that although the quantity of feed required to produce 100 pounds of liveweight pork increases as hogs are fed to heavier weights than 200 pounds liveweight, the increase is very gradual when the feed required by the breeding herd is added to the feed consumed after weaning.

To market hogs weighing 300 pounds liveweight requires only 3 to 5 percent more feed per 100 pounds of pork than would be used per 100 pounds if they were marketed at 225 pounds liveweight. This means that the seasonal change in prices and discounts for heavy hogs are usually much more important factors than the increase in feed per 100 pounds of pork in determining the marketing weights that are most profitable for farmers.

If the Nation needs more pork, farmers can produce it profitably by feeding hogs to heavier weights, provided the hog-feed ratio is favorable, and the price of hogs is maintained during the marketing season without discounts on heavy hogs.

The study, Impact of the War on the Financial Structure of Agriculture, discussed in the biennial report of the Bureau of Agricultural Economics last year, has been completed and published in printed form, as Miscellaneous Publication No. 567. An important feature of that publication is the consolidated balance sheet of agriculture summarizing all major asset items and equity items. That balance sheet was brought up to date during the year, with the addition of estimates as of January 1, 1945, and published as a mimeographed report, The Balance Sheet of Agriculture, 1945. Similar reports will be published annually in the future.

FEDERAL CREDIT AIDS

The use of Federal credit aids as part of the national agricultural policy affecting farm ownership and operation, was analyzed in detail in a study published by the Bureau during the year. It concludes with a summary of the technical advantages and limitations of agricultural credit aids in promotion of improved business-credit facilities; in the promotion of rural capital improvements; in bolstering financially unstable sectors of the rural economy; in promoting the ideal of farm ownership; and in assisting farm families with limited resources. Credit aids permit more flexibility than most other types of aid, in meeting the varying needs of individual farms because of the traditional acceptance of the principle that the lender can vary the terms of each individual loan to make it secure. One limitation of this form of aid is the difficulty of administration. There is danger that when credit is used as an instrument for subsidies or grants such use may unfavorably affect the borrower's attitude toward repayment of the more customary type of loans or debts.

PROGRAM FOR THE YEAR AHEAD

During the coming year, as in the past, a major part of the work of the Bureau of Agricultural Economics will be the collecting and reporting of factual data on agriculture, analyzing these data, and making tabulations or analyses to meet special needs of the executive and legislative branches of the Government and of other public and private groups interested in agriculture. The Bureau will also continue its efforts to further improve its statistical techniques.

The direction in which agriculture moves in the next year or two in readjusting to peacetime conditions will affect the welfare of rural people for a long time to come. Readjustments in agriculture are inseparably linked with readjustments in the national economy in general and in the Nation's economic relations with the rest of the world. The Bureau of Agricultural Economics, therefore, plans to devote special attention in its research during the coming year to the probable long-run nature of peacetime demand for farm products; to ways in which that demand can be maintained at the highest possible level consistent with the general welfare; to adjustments in production and marketing that will be desirable and profitable; to the conservation and efficient use of national agricultural resources and the stabilization of farming as a way of life; and to the improvement of farm incomes and levels of living in rural areas. Economic facts are useful only when they are freely available to all the people, and when they are put to work to serve farmers, the Nation, and all mankind in building a prosperous, secure, and peaceful world.

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